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NEWS 2	"Ask CAS" for self-help around the clock
NEWS 3 Feb 24	PCTGEN now available on STN
NEWS 4 Feb 24	TEMA now available on STN
NEWS 5 Feb 26	NTIS now allows simultaneous left and right truncation
NEWS 6 Feb 26	PCTFULL now contains images
NEWS 7 Mar 04	SDI PACKAGE for monthly delivery of multifile SDI results
NEWS 8 Mar 24	PATDPAFULL now available on STN
NEWS 9 Mar 24	Additional information for trade-named substances without structures available in REGISTRY
NEWS 10 Apr 11	Display formats in DGENE enhanced
NEWS 11 Apr 14	MEDLINE Reload
NEWS 12 Apr 17	Polymer searching in REGISTRY enhanced
NEWS 13 Jun 13	Indexing from 1947 to 1956 added to records in CA/CAPLUS
NEWS 14 Apr 21	New current-awareness alert (SDI) frequency in WPIDS/WPINDEX/WPIX
NEWS 15 Apr 28	RDISCLOSURE now available on STN
NEWS 16 May 05	Pharmacokinetic information and systematic chemical names added to PHAR
NEWS 17 May 15	MEDLINE file segment of TOXCENTER reloaded
NEWS 18 May 15	Supporter information for ENCOMPPAT and ENCOMPLIT updated
NEWS 19 May 19	Simultaneous left and right truncation added to WSCA
NEWS 20 May 19	RAPRA enhanced with new search field, simultaneous left and right truncation
NEWS 21 Jun 06	Simultaneous left and right truncation added to CBNB
NEWS 22 Jun 06	PASCAL enhanced with additional data
NEWS 23 Jun 20	2003 edition of the FSTA Thesaurus is now available
NEWS 24 Jun 25	HSDB has been reloaded
NEWS 25 Jul 16	Data from 1960-1976 added to RDISCLOSURE
NEWS 26 Jul 21	Identification of STN records implemented
NEWS 27 Jul 21	Polymer class term count added to REGISTRY
NEWS 28 Jul 22	INPADOC: Basic index (/BI) enhanced; Simultaneous Left and Right Truncation available
NEWS EXPRESS	April 4 CURRENT WINDOWS VERSION IS V6.01a, CURRENT MACINTOSH VERSION IS V6.0b(ENG) AND V6.0Jb(JP), AND CURRENT DISCOVER FILE IS DATED 01 APRIL 2003
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C)

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77 FILES SEARCHED...
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AN 2003:129199 BIOSIS
DN PREV200300129199
TI Purification and characterization of an oxidation-stable, thiol-dependent
serine **alkaline protease** from **Bacillus**
mojavensis.
AU Beg, Qasim Khalil; Gupta, Rani (1)
CS (1) Department of Microbiology, University of Delhi, Benito Juarez Marg,
South Campus, New Delhi, 110 021, India: ranigupta15@rediffmail.com,
microzyme@123india.com India
SO Enzyme and Microbial Technology, (3 February 2003) Vol. 32, No. 2, pp.
294-304. print.
ISSN: 0141-0229.
DT Article
LA English

L8 ANSWER 2 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2003:532771 CAPLUS
TI An **alkaline protease** from **Bacillus** sp. DSM
14390 for use in washing and cleaning compositions
IN Weber, Angrit; Hellebrandt, Angela; Schmitz, Susanne; Maurer, Karl-heinz;
Kottwitz, Beatrix
PA Henkel Kommanditgesellschaft Auf Aktien, Germany
SO PCT Int. Appl., 112 pp.
CODEN: PIXXD2
DT Patent
LA German
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003056017	A2	20030710	WO 2002-EP14129	20021212
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PRAI DE 2001-10163883	A	20011222		

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AN 2003:212619 CAPLUS

DN 139:67825
 TI Novel **alkaline proteases** from alkalophilic bacteria
 grown on chicken feather
 AU Gessesse, Amare; Hatti-Kaul, Rajni; Gashe, Berhanu A.; Mattiasson, Bo
 CS Institute of Life Sciences, Department of Biotechnology, Aalborg
 University, Aalborg, DK-9000, Den.
 SO Enzyme and Microbial Technology (2003), 32(5), 519-524
 CODEN: EMTED2; ISSN: 0141-0229
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 DT Journal
 LA English

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 AN 1999:244766 CAPLUS
 DN 130:293280
 TI Cloning of gene for **alkaline protease** from
Bacillus and **detergent** composition containing the
alkaline protease
 IN Takaiwa, Mikio; Okuda, Mitsuyoshi; Saeki, Katsuhisa; Kubota, Hiromi;
 Hitomi, Jun; Kageyama, Yasushi; Shikata, Shitsuw; Nomura, Masafumi
 PA Kao Corporation, Japan
 SO PCT Int. Appl., 71 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese

FAN.CNT 1

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	AU 9894579	A1	19990427	AU 1998-94579	19981007
	AU 732369	B2	20010426		
	EP 1029920	A1	20000823	EP 1998-947770	19981007
	R: DE, DK, FR, GB, NL				
	US 6376227	B1	20020423	US 2000-509814	20000406
	US 2002064854	A1	20020530	US 2001-920954	20010803
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	WO 1998-JP4528	W	19981007		
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 DN 128:20054
 TI Cold-active **alkaline proteases** of microbial origins
 and their use for preparing detergent and processing food
 IN Takaiwa, Mikio; Saeki, Katsuhisa; Okuda, Mitsuyoshi; Kobayashi, Toru; Ito,
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 PA Kao Corporation, Japan; Takaiwa, Mikio; Saeki, Katsuhisa; Okuda,
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 SO PCT Int. Appl., 109 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese

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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	WO 9743406	A1	19971120	WO 1997-JP1555	19970509
	W: CN, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 09299083	A2	19971125	JP 1996-116094	19960510
	JP 09299080	A2	19971125	JP 1996-116095	19960510
	JP 09299084	A2	19971125	JP 1996-116096	19960510
	JP 09299081	A2	19971125	JP 1996-116097	19960510
	JP 09299082	A2	19971125	JP 1996-116098	19960510
PRAI	JP 1996-116094		19960510		
	JP 1996-116095		19960510		
	JP 1996-116096		19960510		
	JP 1996-116097		19960510		
	JP 1996-116098		19960510		

L8 ANSWER 6 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:943601 CAPLUS

DN 123:333762

TI Preparation of **alkaline protease** with **Bacillus**
 strain TS50093

IN Nobiki, Masayoshi; Fujiwara, Yoshio; Ichijima, Eiji; Yamagata, Yohei
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07236482	A2	19950912	JP 1994-54613	19940228
PRAI	JP 1994-54613		19940228		

L8 ANSWER 7 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:677354 CAPLUS
 DN 123:78432

TI A novel **alkaline protease** of **Bacillus**
 THS-1001 and its coding gene
 IN Ichijima, Eiji; Yamagata, Yohei
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07095882	A2	19950411	JP 1993-263139	19930928
PRAI	JP 1993-263139		19930928		

L8 ANSWER 8 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:624989 CAPLUS
 DN 121:224989

TI Preparation of **alkaline protease** K-16M with **Bacillus**
 and use in detergents
 IN Kobayashi, Tooru; Hakamata, Yoshihiro; Hitomi, Jun; Kawai, Shuji; Ito,
 Susumu
 PA Kao Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05308967	A2	19931122	JP 1992-141032	19920507
	JP 2908933	B2	19990623		
PRAI	JP 1992-141032		19920507		

L8 ANSWER 9 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:624988 CAPLUS
 DN 121:224988
 TI Preparation of **alkaline protease** K-16N with **Bacillus**
 and use in detergents
 IN Hakamata, Yoshihiro; Kobayashi, Tooru; Hitomi, Jun; Koike, Kenzo; Kawai,
 Shuji; Ito, Susumu
 PA Kao Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 13 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 05308966	A2	19931122	JP 1992-141031	19920507
PRAI	JP 1992-141031		19920507		

L8 ANSWER 10 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:528754 CAPLUS
 DN 121:128754
 TI Preparation of **alkaline protease** of **Bacillus**
 and its use for detergent
 IN Ichijima, Eiji; Yamagata, Yohei
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06070765	A2	19940315	JP 1992-296360	19921008
PRAI	JP 1992-207302		19920710		

L8 ANSWER 11 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:503084 CAPLUS
 DN 121:103084
 TI Novel alkaline lipase and its preparation with **Pseudomonas**
 IN Iwama, Yasushi; Saito, Nobuko; Akino, Toshiro
 PA Godo Shusei Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 6 pp.
 CODEN: JKXXAF

DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06153942	A2	19940603	JP 1992-339460	19921127
PRAI	JP 1992-339460		19921127		

L8 ANSWER 12 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:128511 CAPLUS
 DN 120:128511
 TI Novel **alkaline proteases** from **Bacillus** and
 their manufacture for laundry detergents

IN Boyer, Ernest W.; Byng, Graham S.
PA Solvay Enzymes, Inc., USA
SO Eur. Pat. Appl., 16 pp.
CODEN: EPXXDW

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 571014	A1	19931124	EP 1993-201288	19930506
	R: BE, DE, DK, FR, NL				
	JP 06078768	A2	19940322	JP 1993-116028	19930518
	US 5518917	A	19960521	US 1994-180336	19940112
	US 5385837	A	19950131	US 1994-181872	19940113
	US 5565348	A	19961015	US 1995-390570	19950217
PRAI	US 1992-884184		19920518		
	US 1994-180336		19940112		

L8 ANSWER 13 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1993:423681 CAPLUS

DN 119:23681

TI A novel **alkaline protease** produced by **Bacillus**
and its use in washing compositions
IN Hsiao, Hung Yu; Fodge, Douglas W.; Lalonde, James J.
PA Chemgen Corp., USA; Vista Chemical Co.
SO PCT Int. Appl., 57 pp.
CODEN: PIXXD2

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9307276	A1	19930415	WO 1992-US8341	19921007
	W: AU, BG, BR, CA, CS, FI, HU, JP, KR, NO, PL, RO, RU				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE				
	US 5275945	A	19940104	US 1991-772087	19911008
	AU 9227909	A1	19930503	AU 1992-27909	19921007
PRAI	US 1991-772087		19911008		
	WO 1992-US8341		19921007		

L8 ANSWER 14 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1993:2958 CAPLUS

DN 118:2958

TI An **alkaline protease** from a novel microorganism
suitable for laundry detergents
IN Sawayanagi, Toyoji; Saito, Mina; Tsuzuki, Toshi; Fujiwara, Yoshio;
Noguchi, Yoshitaka
PA Showa Denko K. K., Japan
SO Eur. Pat. Appl., 21 pp.
CODEN: EPXXDW

DT Patent
LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 510673	A2	19921028	EP 1992-107037	19920424
	EP 510673	A3	19930623		
	R: BE, DE, ES, FR, GB, IT, NL				
	CA 2066556	AA	19921027	CA 1992-2066556	19920421
	JP 05252949	A2	19931005	JP 1992-129560	19920422
	AU 9215144	A1	19921029	AU 1992-15144	19920424
	AU 657527	B2	19950316		

US 5387518 A 19950207 US 1992-873168 19920424
PRAI JP 1991-125457 19910426

L8 ANSWER 15 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1992:233913 CAPLUS
DN 116:233913
TI **Alkaline protease** manufacture with **Bacillus**
for use in laundry detergents
IN Utsura, Kensaku; Utsura, Junko; Yoshida, Ritsuko; Takesada, Yoshiaki;
Kojima, Iwao; Kataoka, Mitsuhiko; Minami, Yoshiaki; Yamauchi, Saburo
PA Nagase Biochemical Industry Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 11 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 04016186	A2	19920121	JP 1990-120543	19900509
PRAI JP 1990-120543		19900509		

L8 ANSWER 16 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1991:654327 CAPLUS
DN 115:254327

TI Thermostable **alkaline protease** manufacture with
Bacillus for laundry detergents
IN Sawayanagi, Toyoji; Saito, Mina; Tsuzuki, Satoshi; Suzuki, Takashi;
Tsumita, Yasuo
PA Showa Denko K. K., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 03191781	A2	19910821	JP 1989-330069	19891220
JP 2882652	B2	19990412		
PRAI JP 1989-330069		19891220		

L8 ANSWER 17 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1991:205553 CAPLUS
DN 114:205553

TI Thermostable **alkaline protease** manufacture with
Bacillus
IN Takami, Hideto; Horikoshi, Koki; Akiba, Akihiko
PA Kurita Water Industries, Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent
LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI JP 02255087	A2	19901015	JP 1989-74720	19890327
PRAI JP 1989-74720		19890327		

L8 ANSWER 18 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1985:202605 CAPLUS
DN 102:202605

TI Basic protease by fermentation
PA Showa Denko K. K., Japan

SO Neth. Appl., 35 pp.

CODEN: NAXXAN

DT Patent

LA Dutch

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	NL 8302790	A	19850301	NL 1983-2790	19830808
	NL 194443	B	20011203		
	NL 194443	C	20020404		
PRAI	NL 1983-2790		19830808		

L8 ANSWER 19 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAW24069 Protein DGENE

TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)

IN Aaslyng D A; Dambmann C; Outtrup H; Sloma A P
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.

PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501

67p

PRAI US 1995-434255 19950503

DT Patent

LA English

OS 1996-506165 [50]

CR N-PSDB: AAT85616-17

DESC PD498 **alkaline protease**.

L8 ANSWER 20 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAW24074 Protein DGENE

TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)

IN Aaslyng D A; Dambmann C; Outtrup H; Sloma A P
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.

PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501

67p

PRAI US 1995-434255 19950503

DT Patent

LA English

OS 1996-506165 [50]

CR N-PSDB: AAT85622

DESC Lipolase.

L8 ANSWER 21 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAW24073 Protein DGENE

TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)

IN Aaslyng D A; Dambmann C; Outtrup H; Sloma A P
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.

PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501

67p

PRAI US 1995-434255 19950503

DT Patent

LA English

OS 1996-506165 [50]

CR N-PSDB: AAT85621

DESC PD498 **alkaline protease** signal peptide.

L8 ANSWER 22 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAW24072 Protein DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Aaslyng D A; Dambmann C; Outtrup H; Sloma A P
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
CR N-PSDB: AAT85619
DESC PD498 **alkaline protease** C-terminal fragment.

L8 ANSWER 23 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85617 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
CR P-PSDB: AAW24069
DESC PD498 **alkaline protease** coding sequence.

L8 ANSWER 24 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85616 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
CR P-PSDB: AAW24069
DESC PD498 **alkaline protease** coding sequence.

L8 ANSWER 25 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85628 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501

PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC CryIIIA promoter.

L8 ANSWER 26 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85627 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Primer for alpha-amylase (amyL) promoter amplification.

L8 ANSWER 27 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85626 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Primer for alpha-amylase (amyL) promoter amplification.

L8 ANSWER 28 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85625 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Alpha-amylase (amyL) promoter.

L8 ANSWER 29 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85622 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.

PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
CR P-PSDB: AAW24074
DESC Lipolase coding sequence.

67p

L8 ANSWER 30 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85621 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
CR P-PSDB: AAW24073
DESC PD498 **alkaline protease** signal peptide coding
sequence.

67p

L8 ANSWER 31 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85619 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
CR P-PSDB: AAW24072
DESC PD498 **alkaline protease** C-terminal fragment coding
sequence.

67p

L8 ANSWER 32 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85633 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Primer for BAN promoter amplification.

67p

L8 ANSWER 33 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN

AN AAT85632 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Primer for BAN promoter amplification.

L8 ANSWER 34 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85631 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC BAN promoter.

L8 ANSWER 35 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85630 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Primer for CryIIIA promoter amplification.

L8 ANSWER 36 OF 64 DGENE COPYRIGHT 2003 THOMSON DERWENT on STN
AN AAT85629 DNA DGENE
TI **Alkaline protease** nucleic acid coding sequence - used
to develop prods for use in detergents and for the recombinant expression
of polypeptide(s)
IN Sloma A P; Outtrup H; Dambmann C H G; Aaslyng D A
PA (NOVO) NOVO NORDISK BIOTECH INC.
(NOVO) NOVO-NORDISK AS.
PI WO 9634963 A1 19961107 67p
AI WO 1996-US6097 19960501
PRAI US 1995-434255 19950503
DT Patent
LA English
OS 1996-506165 [50]
DESC Primer for CryIIIA promoter amplification.

L8 ANSWER 37 OF 64 IFIPAT COPYRIGHT 2003 IFI on STN
AN 2571502 IFIPAT;IFIUDB;IFICDB
TI **ALKALINE PROTEASES DERIVED FROM BACILLUS**
PROTEOLYTICUS; A CULTURE PRODUCT POLYPEPTIDES AS AN ANTISOILANTS FOR
WASHING DETERGENT
INF Boyer, Ernest W, Elkhart, IN
Byng, Graham S, Woodinville, WA
IN Boyer Ernest W; Byng Graham S
PAF Solvay Enzymes, Inc, Houston, TX
PA Solvay Enzymes Inc (28411)
EXNAM Robinson, Douglas W
EXNAM Weber, Jon P
AG Willian Brinks Hofer Gilson & Lione
PI US 5385837 19950131 (CITED IN 003 LATER PATENTS)
AI US 1994-181872 19940113
XPD 18 May 2012
RLI US 1992-884184 19920518 CONTINUATION
FI US 5385837 19950131 ABANDONED
DT UTILITY; REASSIGNED
FS CHEMICAL
GRANTED
CLMN 1

L8 ANSWER 38 OF 64 USPATFULL on STN
AN 2002:346797 USPATFULL
TI Method for in vivo production of a mutant library in cells
IN Borchert, Torben Vedel, Jyllinge, DENMARK
Ehrlich, Stanislas Dusko, Paris, FRANCE
PA Novozymes A/S, Bagsvaerd, DENMARK (non-U.S. corporation)
PI US 6500644 B1 20021231
AI US 2000-670798 20000926 (9)
RLI Continuation of Ser. No. US 1998-112410, filed on 8 Jul 1998, now
patented, Pat. No. US 6165718 Continuation of Ser. No. WO 1997-DK14,
filed on 1 Oct 1997
PRAI DK 1996-18 19960110
DT Utility
FS GRANTED
EXNAM Primary Examiner: Guzo, David
LREP Lambiris, Elias, Garbell, Jason
CLMN Number of Claims: 19
ECL Exemplary Claim: 1
DRWN 0 Drawing Figure(s); 0 Drawing Page(s)
LN.CNT 948
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 39 OF 64 USPATFULL on STN
AN 2002:194730 USPATFULL
TI Aminopeptidase derived from Bacillus licheniformis and process for
preparation of natural type proteins
IN Lee, Young-Phil, Taejon-si, KOREA, REPUBLIC OF
Han, Kyuboem, Taejon-si, KOREA, REPUBLIC OF
Kim, Se-Hoon, Taejon-si, KOREA, REPUBLIC OF
Park, Soon-Jae, Taejon-si, KOREA, REPUBLIC OF
Lee, Seung-Joo, Taejon-si, KOREA, REPUBLIC OF
PA LG Chemical Ltd., Seoul, KOREA, REPUBLIC OF (non-U.S. corporation)
PI US 6428997 B1 20020806
WO 9838290 19980903
AI US 1999-367940 19990818 (9)
WO 1998-KR32 19980216
19990818 PCT 371 date
PRAI KR 1997-6756 19970228

DT Utility
FS GRANTED
EXNAM Primary Examiner: Achutamurthy, Ponnathapu; Assistant Examiner: Moore, William W.
LREP Bachman & LaPointe, P.C.
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 17 Drawing Figure(s); 12 Drawing Page(s)
LN.CNT 1059
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 40 OF 64 USPATFULL on STN
AN 2001:158239 USPATFULL
TI Detergent composition containing wool compatible high **alkaline proteases**
IN Baeck, Andre Cesar, Bonheiden, Belgium
Verschuere, Ann Katrien Marie, Beernem, Belgium
Busch, Alfred, Londerzeel, Belgium
PA The Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
PI US 6291414 B1 20010918
AI US 1999-327118 19990607 (9)
RLI Continuation of Ser. No. US 1996-750406, filed on 6 Dec 1996, now patented, Pat. No. US 5922082
PRAI EP 1994-870096 19940616
DT Utility
FS GRANTED
EXNAM Primary Examiner: Fries, Kery
LREP Cook, C. Brant, Zerby, Kim W., Miller, Steven W.
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1165
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 41 OF 64 USPATFULL on STN
AN 2001:33086 USPATFULL
TI Enzymes for detergents
IN Maurer, Karl-Heinz, Erkrath, Germany, Federal Republic of Weiss, Albrecht, Langenfeld, Germany, Federal Republic of Paech, Christian G., Daly City, CA, United States Goddette, Dean W., Chelmsford, MA, United States Christianson, Teresa M., Petaluma, CA, United States Tang, Maria R., Fairfield, CA, United States Wilson, Charles Ronald, Santa Rosa, CA, United States PA Henkel Kommanditgesellschaft Auf Aktien, Duesseldorf, Germany, Federal Republic of (non-U.S. corporation)
PI US 6197589 B1 20010306
AI US 1998-74331 19980507 (9)
RLI Division of Ser. No. US 1995-566369, filed on 1 Dec 1995, now patented, Pat. No. US 5801039 Continuation of Ser. No. US 1994-201120, filed on 20 Feb 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Achutamurthy, Ponnathapu; Assistant Examiner: Moore, William W.
LREP Jaeschke, Wayne C., Murphy, Glenn E.J., Steen, Jeffrey S.
CLMN Number of Claims: 63
ECL Exemplary Claim: 1
DRWN 9 Drawing Figure(s); 9 Drawing Page(s)
LN.CNT 1376
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 42 OF 64 USPATFULL on STN
AN 2000:174347 USPATFULL
TI Method for in vivo production of a mutant library in cells
IN Borchert, Torben Vedel, Jyllinge, Denmark
Ehrlich, Stanislas Dusko, Paris, France
PA Novo Nordisk A/S Novo Alle, Bagsvaerd, Denmark (non-U.S. corporation)
PI US 6165718 20001226
AI US 1998-112410 19980708 (9)
RLI Continuation of Ser. No. WO 1997-DK14, filed on 10 Jan 1997
PRAI DK 1996-18 19960110
DT Utility
FS Granted
EXNAM Primary Examiner: Guzo, David
LREP Lambiris, Elias J., Gregg, Valeta
CLMN Number of Claims: 12
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 938
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 43 OF 64 USPATFULL on STN
AN 1999:141662 USPATFULL
TI **Alkaline protease**, process for the production thereof, use thereof, and microorganism producing the same
IN Miyota, Yoshiaki, Chiba, Japan
Fukuyama, Shiro, Chiba, Japan
Yoneda, Tadashi, Chiba, Japan
PA Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)
PI US 5981255 19991109
WO 9716541 19970509
AI US 1998-43722 19980325 (9)
WO 1996-JP3216 19961101
19980325 PCT 371 date
19980325 PCT 102(e) date
PRAI JP 1995-308493 19951102
DT Utility
FS Granted
EXNAM Primary Examiner: Achutamurthy, Ponnathapura; Assistant Examiner: Monshipouri, Maryam
LREP Zelson, Esq., Steve T., Green, Esq., Reza
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 7 Drawing Figure(s); 7 Drawing Page(s)
LN.CNT 751
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 44 OF 64 USPATFULL on STN
AN 1999:141642 USPATFULL
TI Methods for isolating nucleic acids using **alkaline protease**
IN Shultz, John, Verona, WI, United States
Smith, Craig E., Oregon, WI, United States
Storts, Douglas R., Madison, WI, United States
Brisco, Paula, Oregon, WI, United States
Frederiksen, Judy, Oregon, WI, United States
Selman, Susanne, Madison, WI, United States
Grosch, Josephine, Mazomanie, WI, United States
PA Promega Corporation, Madison, WI, United States (U.S. corporation)
PI US 5981235 19991109
AI US 1996-681922 19960729 (8)
DT Utility

• FS Granted
EXNAM Primary Examiner: Naff, David M.
LREP Frenchick, Grady J.Michael Best & Friedrich LLP, King, Karen B.
CLMN Number of Claims: 24
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 1570
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 45 OF 64 USPATFULL on STN
AN 1999:78089 USPATFULL
TI Detergent composition containing wool compatible high **alkaline proteases**
IN Baeck, Andre Cesar, Bonheiden, Belgium
Verschuere, Ann Katrien Marie Agnes, Beernem, Belgium
Busch, Alfred, Londerzeel, Belgium
PA Procter & Gamble Company, Cincinnati, OH, United States (U.S. corporation)
PI US 5922082 19990713
WO 9534627 19951221
AI US 1996-750406 19961206 (8)
WO 1995-US6481 19950523
19961206 PCT 371 date
19961206 PCT 102(e) date
PRAI EP 1994-870096 19940616
DT Utility
FS Granted
EXNAM Primary Examiner: Fries, Kery
LREP Cook, C. Brant, Zerby, Kim W., Rasser, Jacobus C.
CLMN Number of Claims: 17
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 1242
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 46 OF 64 USPATFULL on STN
AN 1998:104612 USPATFULL
TI Enzymes for detergents
IN Maurer, Karl-Heinz, Erkrath, Germany, Federal Republic of
Weiss, Albrecht, Langenfeld, Germany, Federal Republic of
Paech, Christian G., Daly City, CA, United States
Goddette, Dean W., Chelmsford, MA, United States
Christianson, Teresa M., Petaluma, CA, United States
Tang, Maria R., Fairfield, CA, United States
Wilson, Charles Ronald, Santa Rosa, CA, United States
PA Cognis Gesellschaft fuer Bio und Umwelttechnologie mbH, Duesseldorf, Germany, Federal Republic of (non-U.S. corporation)
PI US 5801039 19980901
AI US 1995-566369 19951201 (8)
RLI Continuation of Ser. No. US 1994-201120, filed on 24 Feb 1994, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Wax, Robert A.; Assistant Examiner: Stole, Einar
LREP Jaeschke, Wayne C., Drach, John E., Steen, Jeffrey S.
CLMN Number of Claims: 70
ECL Exemplary Claim: 1
DRWN 9 Drawing Figure(s); 9 Drawing Page(s)
LN.CNT 1908
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 47 OF 64 USPATFULL on STN

AN 96:94479 USPATFULL
TI **Alkaline protease from Bacillus**
proteolyticus species
IN Boyer, Ernest W., Elkhart, IN, United States
Byng, Graham S., Woodinville, WA, United States
PA Solvay Enzymes, Inc., Elkhart, IN, United States (U.S. corporation)
PI US 5565348 19961015
AI US 1995-390570 19950217 (8)
RLI Continuation of Ser. No. US 1994-180336, filed on 12 Jan 1994, now
abandoned which is a division of Ser. No. US 1992-884184, filed on 18
May 1992, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Naff, David M.; Assistant Examiner: Weber, Jon P.
LREP McDermott, Will & Emery
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 807
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 48 OF 64 USPATFULL on STN
AN 96:43570 USPATFULL
TI **Bacillus proteolyticus species which produce an alkaline**
protease
IN Boyer, Ernest W., Elkhart, IN, United States
Byng, Graham S., Woodinville, WA, United States
PA Solvay Enzymes, Inc., Elkhart, IN, United States (U.S. corporation)
PI US 5518917 19960521
AI US 1994-180336 19940112 (8)
RLI Division of Ser. No. US 1992-884184, filed on 18 May 1992, now abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Wityshyn, Michael G.; Assistant Examiner: Weber, Jon
P.
LREP Willian Brinks Hofer Gilson & Lione
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 821
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 49 OF 64 USPATFULL on STN
AN 95:71269 USPATFULL
TI Method of preparation of purified **alkaline protease**
IN Shetty, Jayarama K., Elkhart, IN, United States
Patel, Chimanbhai P., Mishawaka, IN, United States
Nicholson, Mary Ann, Portage, MI, United States
PA Solvay Enzymes, Inc., Houston, TX, United States (U.S. corporation)
PI US 5439817 19950808
AI US 1993-6484 19930121 (8)
RLI Division of Ser. No. US 1991-813705, filed on 27 Dec 1991, now patented,
Pat. No. US 5256557
DT Utility
FS Granted
EXNAM Primary Examiner: Robinson, Douglas W.
LREP Willian Brinks Hofer Gilson & Lione
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 9 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 1092
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 50 OF 64 USPATFULL on STN
AN 95:60105 USPATFULL
TI Detergent and method for producing the same
IN Flower, David M., Grand Rapids, MI, United States
PA Amway Corporation, Ada, MI, United States (U.S. corporation)
PI US 5429765 19950704
AI US 1993-54962 19930429 (8)
DT Utility
FS Granted
EXNAM Primary Examiner: Lieberman, Paul; Assistant Examiner: Fries, Kery
LREP Price, Heneveld, Cooper, DeWitt & Litton
CLMN Number of Claims: 21
ECL Exemplary Claim: 1
DRWN 3 Drawing Figure(s); 3 Drawing Page(s)
LN.CNT 456
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 51 OF 64 USPATFULL on STN
AN 95:58042 USPATFULL
TI Alkaline bacillus lipases, coding DNA sequences therefor and bacilli,
which produce these lipases
IN Moeller, Bernhard, Hanover, Germany, Federal Republic of
Vetter, Roman, Burgdorf, Germany, Federal Republic of
Wilke, Detlef, Wennigsen, Germany, Federal Republic of
Foullois, Birgit, Hanover, Germany, Federal Republic of
PA Kali-Chemie Aktiengesellschaft, Hanover, Germany, Federal Republic of
(non-U.S. corporation)
PI US 5427936 19950627
WO 9116422 19911031
AI US 1992-930678 19921013 (7)
WO 1991-EP664 19910408
19921013 PCT 371 date
19921013 PCT 102(e) date
PRAI DE 1990-40120708 19900414
DT Utility
FS Granted
EXNAM Primary Examiner: Furman, Keith C.
LREP Evenson, McKeown, Edwards & Lenahan
CLMN Number of Claims: 7
ECL Exemplary Claim: 1
DRWN 18 Drawing Figure(s); 15 Drawing Page(s)
LN.CNT 1123
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 52 OF 64 USPATFULL on STN
AN 95:22827 USPATFULL
TI Multiply mutated subtilisins
IN Zukowski, Mark M., Thousand Oaks, CA, United States
Narhi, Linda O., Moorpark, CA, United States
Levitt, Michael, Stanford, CA, United States
PA Amgen Inc., Thousand Oaks, CA, United States (U.S. corporation)
PI US 5397705 19950314
AI US 1992-857714 19920325 (7)
RLI Continuation of Ser. No. US 1989-353124, filed on 17 May 1989, now
abandoned
DT Utility
FS Granted
EXNAM Primary Examiner: Wax, Robert A.; Assistant Examiner: Moore, William W.
LREP Crandall, Craig A., Chambers, Daniel M., Odre, Steven M.
CLMN Number of Claims: 17
ECL Exemplary Claim: 1

DRWN 10 Drawing Figure(s); 10 Drawing Page(s)

LN.CNT 1606

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 53 OF 64 USPATFULL on STN
AN 95:11536 USPATFULL

TI **Alkaline protease** having stability in solution with anionic surfactant, method for producing the same, use thereof and microorganism producing the same

IN Sawayanagi, Toyoji, Tokyo, Japan
Saito, Mina, Tokyo, Japan
Tsuzuki, Toshi, Tokyo, Japan
Fujiwara, Yoshio, Tokyo, Japan
Noguchi, Yoshitaka, Tokyo, Japan

PA Showa Denko K.K., Tokyo, Japan (non-U.S. corporation)
PI US 5387518 19950207

AI US 1992-873168 19920424 (7)
PRAI JP 1991-125457 19910426

DT Utility

FS Granted

EXNAM Primary Examiner: Robinson, Douglas W.; Assistant Examiner: Weber, Jon P.

LREP Sughrue, Mion, Zinn, Macpeak & Seas

CLMN Number of Claims: 3

ECL Exemplary Claim: 1

DRWN 8 Drawing Figure(s); 6 Drawing Page(s)

LN.CNT 759

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 54 OF 64 USPATFULL on STN
AN 94:42276 USPATFULL

TI Protease

IN Liu, Chi-Li, Danbury, CT, United States
Beck, Carol M., Bethel, CT, United States
Strobel, Jr., Robert J., Danbury, CT, United States
Overholt, Janet M., Danbury, CT, United States

PA Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)
PI US 5312748 19940517

AI US 1988-223788 19880830 (7)
WO 1987-DK144 19871125

19880830 PCT 371 date

19880830 PCT 102(e) date

DDC 20070522

PRAI DK 1986-5640 19861125

DT Utility

FS Granted

EXNAM Primary Examiner: Robinson, Douglas W.; Assistant Examiner: Ware, Deborah K.

LREP Zelson, Steve T., Lambiris, Elias J.

CLMN Number of Claims: 7

ECL Exemplary Claim: 1

DRWN 10 Drawing Figure(s); 6 Drawing Page(s)

LN.CNT 583

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 55 OF 64 USPATFULL on STN
AN 94:15651 USPATFULL

TI Endoprotease from *Fusarium oxysporum* DSM 2672 for use in detergents

IN Nielsen, Ruby I., Farum, Denmark
Aaslyng, Dorrit A., Roskilde, Denmark
Jensen, Georg W., Bagsvaerd, Denmark

PA Schneider, Palle, Ballerup, Denmark
PI Novo Nordisk A/S, Bagsvaerd, Denmark (non-U.S. corporation)
US 5288627 19940222
AI US 1992-977355 19921117 (7)
RLI Division of Ser. No. US 1990-536592, filed on 3 Jul 1990, now abandoned
PRAI DK 1988-62 19880107
DK 1988-63 19880107
DT Utility
FS Granted
EXNAM Primary Examiner: Naff, David M.; Assistant Examiner: Meller, Michael V.
LREP Zelson, Steve T., Lambiris, Elias J.
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 542
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 56 OF 64 USPATFULL on STN
AN 93:89565 USPATFULL
TI Purified **alkaline protease** concentrate and method of preparation
IN Shetty, Jayarama K., Elkhart, IN, United States
Patel, Chimanbhai P., Mishawaka, IN, United States
Nicholson, Mary A., Portazi, MI, United States
PA Solvay Enzymes, Inc., Houston, TX, United States (U.S. corporation)
PI US 5256557 19931026
AI US 1991-813705 19911227 (7)
DT Utility
FS Granted
EXNAM Primary Examiner: Robinson, Douglas W.; Assistant Examiner: Sevigny, Jeffrey J.
LREP Willian Brinks Olds Hofer Gilson & Lione
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN 4 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 1054
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 57 OF 64 USPATFULL on STN
AN 90:40292 USPATFULL
TI Proteolytic detergent additive and compositions containing the same
IN Aaslyng, Dorrit A., Roskilde, Denmark
Jensen, Georg W., Bagsvaerd, Denmark
Schneider, Ib, Hellerup, Denmark
Schneider, Palle, Ballerup, Denmark
PA Novo Industri A/S, Bagsvaerd, Denmark (non-U.S. corporation)
PI US 4927558 19900522
WO 8803946 19880602
AI US 1988-223787 19880831 (7)
WO 1987-DK145 19871125
19880831 PCT 371 date
19880831 PCT 102(e) date
PRAI DK 1986-5640 19861125
DT Utility
FS Granted
EXNAM Primary Examiner: Lieberman, Paul; Assistant Examiner: Beadles-Hay, A.
LREP Fidelman, Morris, Wolffe, Franklin D.
CLMN Number of Claims: 14
ECL Exemplary Claim: 1
DRWN 14 Drawing Figure(s); 14 Drawing Page(s)
LN.CNT 650
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 58 OF 64 USPATFULL on STN
AN 90:25696 USPATFULL
TI Subtilisin analogs
IN Zukowski, Mark M., Thousand Oaks, CA, United States
Stabinsky, Yitzhak, Boulder, CO, United States
Levitt, Michael, London, England
PA Amgen, Inc., Thousand Oaks, CA, United States (U.S. corporation)
PI US 4914031 19900403
AI US 1987-36872 19870410 (7)
DT Utility
FS Granted
EXNAM Primary Examiner: Mays, Thomas D.
LREP Byrne, Thomas E., Odre, Steven M.
CLMN Number of Claims: 22
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 1208
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 59 OF 64 USPATFULL on STN
AN 89:2963 USPATFULL
TI **Alkaline proteases** and microorganisms producing same
IN Takeuchi, Keiji, Tokyo, Japan
Nishino, Takashi, Odawara, Japan
Odera, Motoyasu, Odawara, Japan
Shimogaki, Hisao, Minami-Ashigara, Japan
Negi, Tahee, Fujisawa, Japan
PA Lion Corporation, Tokyo, Japan (non-U.S. corporation)
PI US 4797362 19890110
AI US 1986-870018 19860603 (6)
PRAI JP 1985-123021 19850606
JP 1985-123022 19850606
JP 1985-286944 19851220
DT Utility
FS Granted
EXNAM Primary Examiner: Wiseman, Thomas G.; Assistant Examiner: Patterson,
Jr., Charles L.
LREP Burns, Doane, Swecker & Mathis
CLMN Number of Claims: 11
ECL Exemplary Claim: 1
DRWN 23 Drawing Figure(s); 23 Drawing Page(s)
LN.CNT 1212
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 60 OF 64 USPATFULL on STN
AN 87:43327 USPATFULL
TI Process to solubilize enzymes and an enzyme liquid product produced
thereby
IN Brothers, Charles E., Cassopolis, MI, United States
Kim, Chong Y., Elkhart, IN, United States
PA Miles Laboratories, Inc., Elkhart, IN, United States (U.S. corporation)
PI US 4673647 19870616
AI US 1985-730864 19850506 (6)
DT Utility
FS Granted
EXNAM Primary Examiner: Shapiro, Lionel M.
LREP Gray, Edward P., Skord, Jennifer L.
CLMN Number of Claims: 29
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 581

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 61 OF 64 USPATFULL on STN
AN 84:60989 USPATFULL
TI **Alkaline protease** and preparation method thereof
IN Ichishima, Fiji, Fuchu, Japan
Onouchi, Takashi, Tokyo, Japan
PA Showa Denko Kabushiki Kaisha, Tokyo, Japan (non-U.S. corporation)
PI US 4480037 19841030
AI US 1983-465064 19830208 (6)
PRAI JP 1982-17596 19820208
DT Utility
FS Granted
EXNAM Primary Examiner: Shapiro, Lionel M.
LREP Sughrue, Mion, Zinn, Macpeak & Seas
CLMN Number of Claims: 2
ECL Exemplary Claim: 1
DRWN 6 Drawing Figure(s); 4 Drawing Page(s)
LN.CNT 673
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L8 ANSWER 62 OF 64 WPINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1992-366250 [44] WPINDEX
DNC C1992-162669
TI New **alkaline protease** from **Bacillus** species
JP 395 - useful in detergent compsns. and stable in presence of bleach.
DC D16 D25
IN AASLYNG, D A; CHRISTIANSEN, M; DAMBMANN, C; OUTTRUP, H
PA (NOVO) NOVO-NORDISK AS; (NOVO) NOVOZYMES AS; (NOVO) NOVO NORDISK AS
CYC 19
PI WO 9217578 A1 19921015 (199244)* EN 18p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: FI JP KR US
FI 9304333 A 19931001 (199351)
EP 580656 A1 19940202 (199405) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
JP 06506354 W 19940721 (199433) 6p
US 5466594 A 19951114 (199551) 6p
KR 245618 B1 20000215 (200118)
EP 580656 B1 20011024 (200169) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69232152 E 20011129 (200202)
ADT WO 9217578 A1 WO 1992-DK105 19920403; FI 9304333 A WO 1992-DK105 19920403,
FI 1993-4333 19931001; EP 580656 A1 EP 1992-908125 19920403, WO 1992-DK105
19920403; JP 06506354 W JP 1992-507969 19920403, WO 1992-DK105 19920403;
US 5466594 A WO 1992-DK105 19920403, US 1993-119193 19930923; KR 245618 B1
WO 1992-DK105 19920403, KR 1993-702923 19930927; EP 580656 B1 EP
1992-908125 19920403, WO 1992-DK105 19920403; DE 69232152 E DE 1992-632152
19920403, EP 1992-908125 19920403, WO 1992-DK105 19920403
FDT EP 580656 A1 Based on WO 9217578; JP 06506354 W Based on WO 9217578; US
5466594 A Based on WO 9217578; EP 580656 B1 Based on WO 9217578; DE
69232152 E Based on EP 580656, Based on WO 9217578
PRAI DK 1991-585 19910403

L8 ANSWER 63 OF 64 WPINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1992-366249 [44] WPINDEX
DNC C1992-162668
TI **Alkaline protease** from **Bacillus** species
TY145 - useful in detergent compsns. with high cost performance ratio, for
low temp. washing conditions.
DC D16 D25
IN DAMBMANN, C; LINDEGAARD, P; OUTTRUP, H

PA (NOVO) NOVO-NORDISK AS; (NOVO) NOVOZYMES AS; (NOVO) NOVO NORDISK AS
CYC 19

PI WO 9217577 A1 19921015 (199244)* EN 17p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: FI JP KR US

FI 9304332 A 19931001 (199351)
EP 578719 A1 19940119 (199403) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

JP 06506353 W 19940721 (199433) 6p
US 5362414 A 19941108 (199444) 6p
EP 578719 B1 19950705 (199531) EN 10p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DE 69203345 E 19950810 (199537)
ES 2074360 T3 19950901 (199541)
JP 3042715 B2 20000522 (200029) 5p
KR 245617 B1 20000215 (200118)
FI 110436 B1 20030131 (200319)

ADT WO 9217577 A1 WO 1992-DK104 19920403; FI 9304332 A WO 1992-DK104 19920403,
FI 1993-4332 19931001; EP 578719 A1 EP 1992-908307 19920403, WO 1992-DK104
19920403; JP 06506353 W JP 1992-507968 19920403, WO 1992-DK104 19920403;
US 5362414 A WO 1992-DK104 19920403, US 1993-107689 19930818; EP 578719 B1
1992-603345 19920403, EP 1992-908307 19920403, WO 1992-DK104 19920403; DE
2074360 T3 EP 1992-908307 19920403; JP 3042715 B2 JP 1992-507968 19920403,
WO 1992-DK104 19920403; KR 245617 B1 WO 1992-DK104 19920403, KR
1993-702892 19930925; FI 110436 B1 WO 1992-DK104 19920403, FI 1993-4332
19931001

FDT EP 578719 A1 Based on WO 9217577; JP 06506353 W Based on WO 9217577; US
5362414 A Based on WO 9217577; EP 578719 B1 Based on WO 9217577; DE
69203345 E Based on EP 578719, Based on WO 9217577; ES 2074360 T3 Based on
EP 578719; JP 3042715 B2 Previous Publ. JP 06506353, Based on WO 9217577;
FI 110436 B1 Previous Publ. FI 9304332

PRAI DK 1991-584 19910403

L8 ANSWER 64 OF 64 WPINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1992-366248 [44] WPINDEX
DNC C1992-162667

TI **Alkaline protease from Bacillus species**
JA16-38A - useful in detergent compsns. with high cost performance ratio,
for low temp. washing.

DC D16 D25

IN AASLYNG, D A; DAMBMANN, C; OUTTRUP, H

PA (NOVO) NOVO-NORDISK AS; (NOVO) NOVOZYMES AS; (NOVO) NOVO NORDISK AS
CYC 19

PI WO 9217576 A1 19921015 (199244)* EN 19p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: FI JP KR US

FI 9304331 A 19931001 (199351)
EP 578712 A1 19940119 (199403) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

JP 06506352 W 19940721 (199433) 6p
US 5650315 A 19970722 (199735) 6p
EP 578712 B1 19990707 (199931) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE

DE 69229545 E 19990812 (199938)
KR 245614 B1 20000215 (200118)
FI 110435 B1 20030131 (200319)

ADT WO 9217576 A1 WO 1992-DK103 19920403; FI 9304331 A WO 1992-DK103 19920403,
FI 1993-4331 19931001; EP 578712 A1 EP 1992-908100 19920403, WO 1992-DK103
19920403; JP 06506352 W JP 1992-507967 19920403, WO 1992-DK103 19920403;
US 5650315 A WO 1992-DK103 19920403, US 1993-107687 19930818; EP 578712 B1
1992-908100 19920403, WO 1992-DK103 19920403; DE 69229545 E DE

1992-629545 19920403, EP 1992-908100 19920403, WO 1992-DK103 19920403; KR
245614 B1 WO 1992-DK103 19920403, KR 1993-702874 19930924; FI 110435 B1 WO
1992-DK103 19920403, FI 1993-4331 19931001
FDT EP 578712 A1 Based on WO 9217576; JP 06506352 W Based on WO 9217576; US
5650315 A Based on WO 9217576; EP 578712 B1 Based on WO 9217576; DE
69229545 E Based on EP 578712, Based on WO 9217576; FI 110435 B1 Previous
Publ. FI 9304331
FRAI DK 1991-583 19910403

=>

<-----User Break----->

=> d 18 3 5 6 7 8 10 12 13 16 37 47 48 62 63 64 bib ab

L8 ANSWER 3 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 2003:212619 CAPLUS
DN 139:67825
TI Novel **alkaline proteases** from alkalophilic bacteria
grown on chicken feather
AU Gessesse, Amare; Hatti-Kaul, Rajni; Gashe, Berhanu A.; Mattiasson, Bo
CS Institute of Life Sciences, Department of Biotechnology, Aalborg
University, Aalborg, DK-9000, Den.
SO Enzyme and Microbial Technology (2003), 32(5), 519-524
CODEN: EMTED2; ISSN: 0141-0229
PB Elsevier Science Inc.
DT Journal
LA English
AB Two **alk.** **protease** producing alkalophilic bacterial
strains, designated as AL-20 and AL-89, were isolated from a naturally
occurring alk. habitat. The 2 strains were identified as Nesterenkonia
sp. and *Bacillus pseudofirmus*, resp. Both strains grew and produced
alk. protease using feather as the sole source of C and
N. The addn. of 0.5% glucose to the feather medium increased protease
prodn. by *B. pseudofirmus* AL-89 and suppressed enzyme prodn. by
Nesterenkonia sp. AL-20. The enzymes from both organisms were purified to
electrophoretic homogeneity following $(\text{NH}_4)_2\text{SO}_4$ pptn., and ion-exchange,
hydrophobic-interaction, and gel-filtration chromatogs. The mol
. wt., detd. using SDS-PAGE, was 23 **kDa** for protease
AL-20 and 24 **kDa** for protease AL-89. Protease AL-20 was active
in a broad pH range displaying >90% of its max. activity at pH 7.5-11.5
with a peak at pH 10. The enzyme was unique in that unlike all other
microbial serine proteases known so far, it did not require Ca^{2+} for
activity and thermal stability. Its optimum temp. for activity was
70.degree. and it was stable after 1 h incubation at 65.degree. both in
the presence and absence of Ca^{2+} . These properties make protease AL-20 an
ideal candidate for detergent application. Protease AL-89 on the other
hand required Ca^{2+} for activity and stability at temps. of >50.degree..
Its optimum activity was at 60 and 70.degree. in the absence and presence
of Ca^{2+} , resp. It displayed a pH optimum of 11 and retained .apprx.70% or
more of its original activity at pH 6.5-11. *B. pseudofirmus* AL-89, and
the protease it produce offers an interesting potential for the enzymic
and/or microbiol. hydrolysis of feather to be used as animal feed
supplement.

RE.CNT 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L8 ANSWER 5 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
AN 1997:757111 CAPLUS
DN 128:20054
TI Cold-active **alkaline proteases** of microbial origins
and their use for preparing detergent and processing food

IN Takaiwa, Mikio; Saeki, Katsuhisa; Okuda, Mitsuyoshi; Kobayashi, Toru; Ito, Susumu; Kubota, Hiromi; Ota, Yasuhiko; Fujimori, Naoko
 PA Kao Corporation, Japan; Takaiwa, Mikio; Saeki, Katsuhisa; Okuda, Mitsuyoshi; Kobayashi, Toru; Ito, Susumu; Kubota, Hiromi; Ota, Yasuhiko; Fujimori, Naoko
 SO PCT Int. Appl., 109 pp.
 CODEN: PIXXD2
 DT Patent
 LA Japanese
 FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9743406	A1	19971120	WO 1997-JP1555	19970509
	W: CN, US				
	RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
	JP 09299083	A2	19971125	JP 1996-116094	19960510
	JP 09299080	A2	19971125	JP 1996-116095	19960510
	JP 09299084	A2	19971125	JP 1996-116096	19960510
	JP 09299081	A2	19971125	JP 1996-116097	19960510
	JP 09299082	A2	19971125	JP 1996-116098	19960510
PRAI	JP 1996-116094		19960510		
	JP 1996-116095		19960510		
	JP 1996-116096		19960510		
	JP 1996-116097		19960510		
	JP 1996-116098		19960510		
AB	Several cold-active alk. protease that have an pH optimum of 9.apprx.11, that are active in a temp. of 0.apprx.50.degree. and a wide pH range, and that are resistant to most surfactants are disclosed. Cold-active alk. protease T15 was prep'd. from the culture of Bacillus strain KSM-T15 and characterized. The enzyme exhibits a pH optimum 11 (active in the range of 5.apprx.12), temp. 37,000.+-.1000 by SDS-PAGE. Prepn. and characterization of cold-active alk. protease S, T61, T16, X from other microorganisms were also described. Use of the proteases for prepg. detergent compns. and processing food is claimed.				

L8 ANSWER 6 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:943601 CAPLUS
 DN 123:333762
 TI Preparation of alkaline protease with Bacillus strain TS50093
 IN Nobiki, Masayoshi; Fujiwara, Yoshio; Ichijima, Eiji; Yamagata, Yohei
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 12 pp.
 CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 07236482	A2	19950912	JP 1994-54613	19940228
PRAI	JP 1994-54613		19940228		
AB	A novel alk. protease is isolated from the culture of Bacillus strain TS50093 and characterized. The enzyme exhibits a pH optimum 11-11.5, a temp. optimum 55.degree., a mol. wt . by SDS-PAGE 29,000.+-.1,000, and pI 9.4-9.5. Its 49 N-terminal amino acid residues are also disclosed. The enzyme is stable in the presence of surfactants and therefore is suitable for the prepn. of detergents.				

L8 ANSWER 7 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1995:677354 CAPLUS

DN 123:78432
 TI A novel **alkaline protease** of **Bacillus**
 THS-1001 and its coding gene
 IN Ichijima, Eiji; Yamagata, Yohei
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 07095882	A2	19950411	JP 1993-263139	19930928
PRAI JP 1993-263139		19930928		

AB The gene encoding a novel **alk. protease** is isolated from **Bacillus THS-1001**. The enzyme isolated from **Bacillus THS-1001** exhibits a pH optimum 9.5-10.5, temp. optimum 50.degree., pI >11, and mol. wt. 299,000 (SDS-PAGE). The enzyme is able to degrade Suc-Leu-Leu-Val-Tyr-MCA. The enzyme can be used for the prepn. of detergent.

L8 ANSWER 8 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:624989 CAPLUS
 DN 121:224989
 TI Preparation of **alkaline protease** K-16M with **Bacillus** and use in detergents
 IN Kobayashi, Tooru; Hakamata, Yoshihiro; Hitomi, Jun; Kawai, Shuji; Ito, Susumu
 PA Kao Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 14 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 05308967	A2	19931122	JP 1992-141032	19920507
JP 1908933	B2	19990623		
PRAI JP 1992-141032		19920507		

AB A novel **alk. protease** K-16M suitable in detergent prepn. was isolated from the culture of **Bacillus KSM-K16**. The enzyme exhibited a pH optimum of 11.0-12.3, a temp. optimum of 55.degree., and a mol. wt. of (28,000 SDS-PAGE), and was stable in the presence of a wide variety of surfactants.

L8 ANSWER 10 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:528754 CAPLUS
 DN 121:128754
 TI Preparation of **alkaline protease** of **Bacillus** and its use for detergent
 IN Ichijima, Eiji; Yamagata, Yohei
 PA Showa Denko Kk, Japan
 SO Jpn. Kokai Tokkyo Koho, 10 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 06070765	A2	19940315	JP 1992-296360	19921008
PRAI JP 1992-207302		19920710		

AB A surfactant-safe **alk. protease** of **Bacillus**

NKS-21 is prep'd. with transgenic Escherichia coli and used for the prepn. of laundry detergent. The enzyme exhibits a pH optimum >11, a temp. optimum 50.degree., and pI <2.8. Its mol. wt. estd. by SDS-PAGE is 37,000. The gene encoding the enzyme and the deduced amino acid sequence are also disclosed.

L8 ANSWER 12 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1994:128511 CAPLUS
 DN 120:128511

TI Novel **alkaline proteases** from **Bacillus** and their manufacture for laundry detergents
 IN Boyer, Ernest W.; Byng, Graham S.
 PA Solvay Enzymes, Inc., USA
 SO Eur. Pat. Appl., 16 pp.
 CODEN: EPXXDW

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 571014	A1	19931124	EP 1993-201288	19930506
	R: BE, DE, DK, FR, NL				
	JP 06078768	A2	19940322	JP 1993-116028	19930518
	US 5518917	A	19960521	US 1994-180336	19940112
	US 5385837	A	19950131	US 1994-181872	19940113
	US 5565348	A	19961015	US 1995-390570	19950217
PRAI	US 1992-884184		19920518		
	US 1994-180336		19940112		

AB Novel **alk. proteases** derived from novel isolates of **Bacillus** are described. These **alk. proteinases** are manufd. for use in laundry detergents by cultivation of the microorganism. Alkalophilic bacteria were isolated from soil and screened for accumulation of an **alk. proteinase** by halo test and proteinase producers were then screened for growth at 57.degree.. An isolate of **Bacillus proteolyticus** was obtained from this screen and used for manuf. of enough of the proteinase for characterization. The enzyme was obtained from culture supernatants clarified by centrifugation and flocculation by dialysis, ion-exchange, and Cibacron Blue chromatog. The enzyme has a mol. wt. of 28 kDa, a pI of 11.1 and a specific activity of 26.5 APU/mg protein. The enzyme was significantly more stable in a heavy duty liq. detergent than enzyme A of **B. licheniformis**: the novel enzyme retained 55% of its activity after 11 days in a formulation in which enzyme A retained 15% of its activity. The enzyme was also more effective at soil removal under std. test conditions than enzyme A.

L8 ANSWER 13 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1993:423681 CAPLUS
 DN 119:23681

TI A novel **alkaline protease** produced by **Bacillus** and its use in washing compositions
 IN Hsiao, Hung Yu; Fodge, Douglas W.; Lalonde, James J.
 PA Chemgen Corp., USA; Vista Chemical Co.
 SO PCT Int. Appl., 57 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9307276	A1	19930415	WO 1992-US8341	19921007
	W: AU, BG, BR, CA, CS, FI, HU, JP, KR, NO, PL, RO, RU				

RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, SE
 US 5275945 A 19940104 US 1991-772087 19911008
 AU 9227909 A1 19930503 AU 1992-27909 19921007
 PRAI US 1991-772087 19911008
 WO 1992-US8341 19921007
 AB An alk. proteinase which retains .gtoreq.50% of its activity after 12 h at 52.degree. in a stabilized aq. detergent compn. of pH 9.8 was isolated from a novel **Bacillus** strain. Alk. proteinase 164A was isolated from a **Bacillus** strain isolated from alk. soil samples collected around linear alkylbenzenesulfonate storage vessels and loading docks. The proteinase had an optimal pH of 11, an optimal temp. of 65.degree., a mol. wt. of 27,600, and a PI of 7.4. It displayed high resistance to oxidn. by bleaches and improved detergency when blended with heavy-duty detergent liqs. The amino acid sequence of 164A and of the gene encoding it were detd.

L8 ANSWER 16 OF 64 CAPLUS COPYRIGHT 2003 ACS on STN
 AN 1991:654327 CAPLUS

DN 115:254327

TI Thermostable alkaline protease manufacture with **Bacillus** for laundry detergents

IN Sawayanagi, Toyoji; Saito, Mina; Tsuzuki, Satoshi; Suzuki, Takashi; Tsumita, Yasuo

PA Showa Denko K. K., Japan

SO Jpn. Kokai Tokkyo Koho, 8 pp.
CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 03191781	A2	19910821	JP 1989-330069	19891220
	JP 2882652	B2	19990412		
PRAI	JP 1989-330069		19891220		

AB The thermostable alk. protease (I) resistant to anionic detergents and having a mol. wt. of 46,000 dalton (by SDSPAGE) is manufd. by culturing **Bacillus** SD521. **Bacillus** SD521 was shake-cultured in a medium of maltose, soybean lees, and salts for 26 h at 35.degree.. After filtration, a filtrate having I activity of 85 nkatal/mL was obtained. Further purifn. of I by (NH4)2SO4 pptn. and chromatogs. was shown. Also given were the enzymic characteristics of I and physiol. and morphol. characteristics of **Bacillus** SD521.

L8 ANSWER 37 OF 64 IFIPAT COPYRIGHT 2003 IFI on STN
 AN 2571502 IFIPAT;IFIUDB;IFICDB

TI **ALKALINE PROTEASES DERIVED FROM BACILLUS PROTEOLYTICUS; A CULTURE PRODUCT POLYPEPTIDES AS AN ANTISOILANTS FOR WASHING DETERGENT**

INF Boyer, Ernest W, Elkhart, IN
Byng, Graham S, Woodinville, WA

IN Boyer Ernest W; Byng Graham S

PAF Solvay Enzymes, Inc, Houston, TX

PA Solvay Enzymes Inc (28411)

EXNAM Robinson, Douglas W

EXNAM Weber, Jon P

hawel

AG Willian Brinks Hofer Gilson & Lione

PI US 5385837 19950131 (CITED IN 003 LATER PATENTS)

AI US 1994-181872 19940113

XPD 18 May 2012

RLI US 1992-884184 19920518 CONTINUATION

FI US 5385837 19950131 ABANDONED

DT UTILITY; REASSIGNED

FS CHEMICAL
GRANTED

CLMN 1

AB **Alkaline proteases** derived from specific bacteria of the species *Bacillus proteolyticus* have enhanced stability and improved washing ability when blended in general detergents. Also disclosed are new bacteria producing these **alkaline proteases**. Additionally, there is also disclosed a process for the production of the **alkaline proteases** which comprises cultivating new bacteria and detergent compositions containing these **alkaline proteases**.

L8 ANSWER 47 OF 64 USPATFULL on STN
AN 96:94479 USPATFULL

TI **Alkaline protease** from *Bacillus* *proteolyticus* species *ACAL*

IN Boyer, Ernest W., Elkhart, IN, United States
Byng, Graham S., Woodinville, WA, United States

PA Solvay Enzymes, Inc., Elkhart, IN, United States

PI US 5565348 19961015

AI US 1995-390570 19950217 (8)

RLI Continuation of Ser. No. US 1994-180336, filed on 12 Jan 1994, now abandoned which is a division of Ser. No. US 1992-884184, filed on 18 May 1992, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Naff, David M.; Assistant Examiner: Weber, Jon P.

LREP McDermott, Will & Emery

CLMN Number of Claims: 8

ECL Exemplary Claim: 1

DRWN No Drawings

LN.CNT 807

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB An **alkaline protease** which is suitable for detergent formulations is produced by three strains of a species of *Bacillus proteolyticus*. The **alkaline protease** has the amino acid terminal sequence of Seq. ID NO.: 1 as follows:
Ala-Gln-Ser-Val-Pro-Trp-Gly-Ile-Ser-Arg-Val-Gln-Ala-Pro-Ala-Ala-His-Asn-Arg-Gly-. In addition, the **alkaline protease** has a **molecular weight** of (28 kdaltons, an isoelectric point from 10-11.5, an optimum pH for proteolytic activity at a pH in the range of 8.5 and 11.5, and retains at least 70% of its original activity after being held at a pH of 8.0 at a temperature of 43.degree. C. for a period of 11 days.

L8 ANSWER 48 OF 64 USPATFULL on STN
AN 96:43570 USPATFULL

TI *Bacillus proteolyticus* species which produce an **alkaline protease**

IN Boyer, Ernest W., Elkhart, IN, United States
Byng, Graham S., Woodinville, WA, United States

PA Solvay Enzymes, Inc., Elkhart, IN, United States

PI US 5518917 19960521

AI US 1994-180336 19940112 (8)

RLI Division of Ser. No. US 1992-884184, filed on 18 May 1992, now abandoned

DT Utility

FS Granted

EXNAM Primary Examiner: Wityshyn, Michael G.; Assistant Examiner: Weber, Jon P.

LREP Willian Brinks Hofer Gilson & Lione

CLMN Number of Claims: 7

ECL Exemplary Claim: 1

DRWN No Drawings
LN.CNT 821

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Three strains of a species of *Bacillus proteolyticus* are provided. This bacterium produces an **alkaline protease** which is suitable for **detergent** formulations. The **alkaline protease** has the amino acid terminal sequence of Seq. ID NO.: 1 as follows: Ala-Gln-Ser-Val-Pro-Trp-Gly-Ile-Ser-Arg-Val-Gln-Ala-Pro-Ala-Ala-His-Asn-Arg-Gly-. In addition, the **alkaline protease** has a **molecular weight** of 28 kdaltons, an isoelectric point from 10-11.5, an optimum pH for proteolytic activity at a pH in the range of 8.5 and 11.5, and retains at least 70% of its original activity after being held at a pH of 8.0 at a temperature of 43.degree. C. for a period of 11 days.

L8 ANSWER 62 OF 64 WPINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1992-366250 [44] WPINDEX
DNC C1992-162669
TI New **alkaline protease** from **Bacillus** species
JP 395 - useful in detergent compsns. and stable in presence of bleach.
DC D16 D25
IN AASLYNG, D A; CHRISTIANSEN, M; DAMBMANN, C; OUTTRUP, H
PA (NOVO) NOVO-NORDISK AS; (NOVO) NOVOZYMES AS; (NOVO) NOVO NORDISK AS
CYC 19
PI WO 9217578 A1 19921015 (199244)* EN 18p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: FI JP KR US
FI 9304333 A 19931001 (199351)
EP 580656 A1 19940202 (199405) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
JP 06506354 W 19940721 (199433) 6p
US 5466594 A 19951114 (199551) 6p
KR 245618 B1 20000215 (200118)
EP 580656 B1 20011024 (200169) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69232152 E 20011129 (200202)
ADT WO 9217578 A1 WO 1992-DK105 19920403; FI 9304333 A WO 1992-DK105 19920403,
FI 1993-4333 19931001; EP 580656 A1 EP 1992-908125 19920403, WO 1992-DK105
19920403; JP 06506354 W JP 1992-507969 19920403, WO 1992-DK105 19920403;
US 5466594 A WO 1992-DK105 19920403, US 1993-119193 19930923; KR 245618 B1
WO 1992-DK105 19920403, KR 1993-702923 19930927; EP 580656 B1 EP
1992-908125 19920403, WO 1992-DK105 19920403; DE 69232152 E DE 1992-632152
19920403, EP 1992-908125 19920403, WO 1992-DK105 19920403
FDT EP 580656 A1 Based on WO 9217578; JP 06506354 W Based on WO 9217578; US
5466594 A Based on WO 9217578; EP 580656 B1 Based on WO 9217578; DE
69232152 E Based on EP 580656, Based on WO 9217578
PRAI DK 1991-585 19910403
AB WO 9217578 A UPAB: 19931006
New **alkaline protease** (I) has the following properties: (1) apparent mol. wt. 30 kD; (2) isoelectric point above 9.5; (3) pH optimum at 9-11 925degC; (4) temp. optimum 50-65degC (at pH 9.5); (5) immunochemical properties (partially identical with those of a **protease** from **Bacillus** sp. JP395, NCIMB 40337.

Also new is an isolated, biologically pure culture of *Bacillus* Sp. JP395.

(I) is derived from the new *Bacillus*, esp. strain NCIMB 40337, or its mutants or variants.

(I) is made by culturing the new *Bacillus* on a conventional nutrient medium under aerobic conditions. Since the new *Bacillus* cannot grow below pH8, culture must be under alkaline conditions. Enzyme concentrates are recovered e.g by removing coarse material, low temp. evapn. or reverse

osmosis, then opt. adding preservatives. Solid enzyme preps are made by pptn. with Salts or Solvents or by Spray-drying.

(I) is stable for 60 min at 40degC under washing conditions, with or without bleaches. USE - (I) is useful in detergent compsns.
0/2

L8 ANSWER 63 OF 64 WPINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1992-366249 [44] WPINDEX
DNC C1992-162668
TI **Alkaline protease** from **Bacillus** species
TY145 - useful in detergent compsns. with high cost performance ratio, for low temp. washing conditions.
DC D16 D25
IN DAMBMANN, C; LINDEGAARD, P; OUTTRUP, H
PA (NOVO) NOVO-NORDISK AS; (NOVO) NOVOZYMES AS; (NOVO) NOVO NORDISK AS
CYC 19
PI WO 9217577 A1 19921015 (199244)* EN 17p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: FI JP KR US
FI 9304332 A 19931001 (199351)
EP 578719 A1 19940119 (199403) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
JP 06506353 W 19940721 (199433) 6p
US 5362414 A 19941108 (199444) 6p
EP 578719 B1 19950705 (199531) EN 10p
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69203345 E 19950810 (199537)
ES 2074360 T3 19950901 (199541)
JP 3042715 B2 20000522 (200029) 5p
KR 245617 B1 20000215 (200118)
FI 110436 B1 20030131 (200319)
ADT WO 9217577 A1 WO 1992-DK104 19920403; FI 9304332 A WO 1992-DK104 19920403,
FI 1993-4332 19931001; EP 578719 A1 EP 1992-908307 19920403, WO 1992-DK104
19920403; JP 06506353 W JP 1992-507968 19920403, WO 1992-DK104 19920403;
US 5362414 A WO 1992-DK104 19920403, US 1993-107689 19930818; EP 578719 B1
1992-908307 19920403, WO 1992-DK104 19920403; DE 69203345 E DE
1992-603345 19920403, EP 1992-908307 19920403, WO 1992-DK104 19920403; ES
2074360 T3 EP 1992-908307 19920403; JP 3042715 B2 JP 1992-507968 19920403,
WO 1992-DK104 19920403; KR 245617 B1 WO 1992-DK104 19920403, KR
1993-702892 19930925; FI 110436 B1 WO 1992-DK104 19920403, FI 1993-4332
19931001
FDT EP 578719 A1 Based on WO 9217577; JP 06506353 W Based on WO 9217577; US
5362414 A Based on WO 9217577; EP 578719 B1 Based on WO 9217577; DE
69203345 E Based on EP 578719, Based on WO 9217577; ES 2074360 T3 Based on
EP 578719; JP 3042715 B2 Previous Publ. JP 06506353, Based on WO 9217577;
FI 110436 B1 Previous Publ. FI 9304332
PRAI DK 1991-584 19910403
AB WO 9217577 A UPAB: 19931006
Protease (I) has the following properties (1) apparent mol. wt. 38 PrD; (2) isoelectric pt. about 8.8; (3) pH optimum at 8-11 (25degC); (4) temp. optimum 45-55degC (pH 9.5) and (5) immunochemical properties (partially) identical to those of a **protease** from **Bacillus** Sp. TY145, NCIMB 40339. Also new is an isolated, biologically pure culture of **Bacillus** sp. TY145. Pref. (I) is derived from the new **Bacillus**, specifically strain NCIMB 40339 or mutants or variants. Pref. prepns comprises culturing the new **Bacillus** on a standard alkaline pH (e.g. pH9). Enzyme conc can be recovered e.g. by removing coarse material, low temp. evapn. or reverse osmosis, then opt. adding preservatives. Solid enzyme preps are made e.g. by pptn. with salts or solvents, or by Spray-drying.
USE/ADVANTAGE - Cost-performance ratio.
0/2

L8 ANSWER 64 OF 64 WPIINDEX COPYRIGHT 2003 THOMSON DERWENT on STN
AN 1992-366248 [44] WPIINDEX
DNC C1992-162667

TI **Alkaline protease from *Bacillus* species**
JA16-38A - useful in detergent compsns. with high cost performance ratio,
for low temp. washing.

DC D16 D25

IN AASLYNG, D A; DAMBMANN, C; OUTTRUP, H
PA (NOVO) NOVO-NORDISK AS; (NOVO) NOVOZYMES AS; (NOVO) NOVO NORDISK AS
CYC 19

PI WO 9217576 A1 19921015 (199244)* EN 19p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: FI JP KR US
FI 9304331 A 19931001 (199351)
EP 578712 A1 19940119 (199403) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
JP 06506352 W 19940721 (199433) 6p
US 5650315 A 19970722 (199735) 6p
EP 578712 B1 19990707 (199931) EN
R: AT BE CH DE DK ES FR GB GR IT LI LU NL SE
DE 69229545 E 19990812 (199938)
KR 245614 B1 20000215 (200118)
FI 110435 B1 20030131 (200319)

ADT WO 9217576 A1 WO 1992-DK103 19920403; FI 9304331 A WO 1992-DK103 19920403,
FI 1993-4331 19931001; EP 578712 A1 EP 1992-908100 19920403, WO 1992-DK103
19920403; JP 06506352 W JP 1992-507967 19920403, WO 1992-DK103 19920403;
US 5650315 A WO 1992-DK103 19920403, US 1993-107687 19930818; EP 578712 B1
1992-908100 19920403, WO 1992-DK103 19920403; DE 69229545 E DE
245614 B1 WO 1992-DK103 19920403, KR 1993-702874 19930924; FI 110435 B1 WO
1992-DK103 19920403, FI 1993-4331 19931001

FDT EP 578712 A1 Based on WO 9217576; JP 06506352 W Based on WO 9217576; US
5650315 A Based on WO 9217576; EP 578712 B1 Based on WO 9217576; DE
69229545 E Based on EP 578712, Based on WO 9217576; FI 110435 B1 Previous
Publ. FI 9304331

PRAI DK 1991-583 19910403

AB WO 9217576 A UPAB: 19931006
Protease (I) has the following properties (1) apparent mol.
wt., 28 PrD; (2) isoelectric pt about 6.4; (3) pH optimum at 9-11
(25degC); (4) temp. optimum 40-50degC (at pH 9.5) and (5) immunochemical
properties (partially) identical to those of a **protease** from
***Bacillus* Sp. JA16-38A, NCIMB 40263. Also new is an isolated,
biologically pure culture of *Bacillus* sp.JA16-38A.
Pref. (I) is derived from the new *Bacillus*, esp. Strain NCIMB 40263,
or mutants or variants. Pref prepns comprises culturing the new *Bacillus* on
a standard nutrient medium aerobically. Culture is in an alkaline medium
(the new species grows poorly at below pH 8) and extracellular proteases
are recovered by usual methods, e.g. centrifuging, purifcn. of the conc.
supernatant by anion-exchange chromatography or acetone pptn. then
affinity chromatography.**

USE/ADVANTAGE - High cost/performance ratio.

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